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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,797	04/10/2001	Zhongning Liang	NL 000195	1904

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
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EXAMINER

LEWIS, MONICA

ART UNIT PAPER NUMBER

2822

DATE MAILED: 10/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/829,797

Applicant(s)

LIANG ET AL.

Examiner

Monica Lewis

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### DETAILED ACTION

1. This office action is in response to the amendment filed April 22, 2003.

#### *Drawings*

2. The drawings are objected to because of the following: a) 4 is supposed to be an intermetal dielectrics layer however from the drawing it is not clear that it is a layer (See Figure 3). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

#### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Kida et al. (U.S. Patent No. 6,313,540).

In regards to claim 1, Kida et al. ("Kida") discloses the following:

a) a bond pad (3) disposed above a layered structure that increases structural integrity of the bond pad structure (For Example: See Figure 9);

b) layered structure comprises a top and bottom metal layer (14 and 31) at least one layer of dielectric material (For Example: See Figure 9); and

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c) a plurality of equally spaced parallel via lines (33) that connect the top and bottom metal layers and partition the at least one dielectric area to form isolated areas filled with dielectric material (For Example: See Figure 9).

In regards to claim 2, Kida discloses the following:

a) the via lines are lines of tungsten (For Example: See Column 4 Lines 37-39).

In regards to claim 3, Kida discloses the following:

a) a stack of layered structures is present (For Example: See Figure 9).

In regards to claim 4, Kida discloses the following:

a) the metal layer in each layered structure is a metal plate (For Example: See Figure 9).

In regards to claim 5, Kida discloses the following:

a) the top and bottom metal layers of the stack are metal plates and the intermediate metal layer or layers are parallel metal lines (For Example: See Figure 9).

In regards to claim 7, Kida discloses the following:

a) the via lines are patterned in the form of a grid (For Example: See Figures 7a-7h).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claim 6 is rejected under 35 U.S.C. 103(a) as obvious over Kida et al. (U.S. Patent No. 6,313,540) in view of Saran et al. (U.S. Publication No. 2002/0187634).

In regards to claim 6, Kida fails to disclose the following:

a) the metal lines are patterned in the form of a grid.

However, Saran discloses metal lines in the form of a grid (For Example: See Paragraph 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Kida to include metal lines in the form of a grid as disclosed in Saran because it aids in serving as reinforcement for the dielectric layer (For Example: See Figure 5).

Additionally, since Kida and Saran are both from the same field of endeavor, the purpose disclosed by Saran would have been recognized in the pertinent art of Kida.

### ***Conclusion***

7. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure: a) Fujiki et al. (U.S. Patent No. 5,736,791) discloses a bonding pad structure; b) Shiue et al. (U.S. Patent No. 5,923,088) discloses a bond pad structure; c) Tanaka (U.S. Patent No. 6,100,589) discloses a semiconductor device; d) Yamaha (U.S. Patent No. 6,297,563) discloses a bonding pad structure; e) Lee et al. (U.S. Patent No. 6,465,337) discloses a circuit bonding pad; f) Tsai et al. (U.S. Patent No. 6,524,942) discloses a bond pad structure; and g) Lee et al. (U.S. Patent No. 6,552,438) discloses a bonding pad structure.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica Lewis whose telephone number is 703-305-3743. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 703-308-4905. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722 for regular and after final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

ML

September 30, 2003

  
AMIR ZARABIAN  
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